

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF NEW YORK

SAMUEL M. ROBERTS,

Plaintiff,

vs.

LOS ALAMOS NATIONAL SECURITY, LLC, AWE,
PLC., MASSACHUSETTS INSTITUTE OF
TECHNOLOGY,

Defendants,
Third-Party Plaintiffs,

vs.

UNIVERSITY OF ROCHESTER

Third-Party Defendant.

**SUPPLEMENTAL
AFFIDAVIT OF
HANS W. HERRMANN**

Civil No. 11 CV 6206L

STATE OF NEW YORK)
COUNTY OF MONROE) ss:

Hans W. Herrmann., being duly sworn, deposes and states:

1. That I am employed by Los Alamos National Security, LLC (LANS), and I hold the position of R&D Scientist 4.

2. That this Affidavit is submitted in opposition to Plaintiff's Motion for Partial Summary Judgment against LANS, in response to the Declaration of Louis Micca, Esq. and in further support of LANS' Motion for Summary Judgment dismissing Plaintiff's complaint against LANS.

3. That my area of expertise is plasma physics, including inertial confinement fusion, gamma ray physics and implosion diagnostics. I hold a Bachelor's Degree in Applied and Engineering Physics from Cornell University. I am a graduate of the Navy Nuclear Power

School. I have Master's and Ph.D. degrees in Astrophysical Sciences from Princeton University with a specialty in controlled thermonuclear fusion energy. I am a research and development scientist involved in inertial confinement fusion and weapons physics at Los Alamos National Laboratory ("LANL"). I have previously served as a nuclear trained officer aboard Trident Ballistic Missile Submarines and have more recently been involved in an international collaboration investigating inertial confinement-fusion with a specialty in gamma ray physics.

4. That, in the course of my employment, in 2006 I became a project leader for an experimental campaign referred to as the DT Ratio Experiment. "DT" refers to deuterium-tritium. This campaign, supported by the National Nuclear Security Agency under the U.S. Department of Energy, has been conducted over a number of years.

5. That one of the many days and locations where certain tests were run in furtherance of this experimental campaign included testing conducted on August 6, 2008, at the Laboratory for Laser Energetics ("LLE") in Rochester, New York, also known as the OMEGA Facility.

6. That the DT Ratio Experiment, like most experiments conducted in the OMEGA Facility, involved collecting data from the setting off, by use of a laser, of what were effectively small hydrogen bombs in pursuit of a program to create fusion energy. That the results of the various tests, also called shots, were measured by various instruments called diagnostics. That the actual explosions did not take place within the portion of the Target Bay where the various diagnostics were located but within a vacuum sealed area into which the various diagnostics were projected. That the purpose of the diagnostics was to measure the various outputs such as gamma rays and neutrons which were produced when the laser set off the small hydrogen bombs. At the time each shot took place no one was present in the Target Bay or the vacuum sealed area where the actual explosions took place and scientific personnel from both the LLE and external

users were in separate rooms reviewing the readings produced by the various diagnostics on computers. The occurrence of the shots themselves were controlled by the LLE staff who were responsible for operating the OMEGA laser and were specifically under the control of the OMEGA Shot Director, an LLE employee.

7. That on August 6, 2008, the program consisted of 16 proposed "shots". In each case no shot would take place until it was authorized and approved by the Shot Director, the overall LLE person in control of the testing procedure. That, on the day in question, only one of the shots that took place before the Plaintiff's accident involved the use by LANL of the LLE diagnostic known as the Light Pipe. That was shot number 9 and LANL's involvement was limited to requesting a pressure change from 50 PSI to 100 PSI and that its measuring device, a photo multiplier tube which is a recording device, be inserted into the base of the LLE Light Pipe diagnostic (which base was located on a level below where the diagnostic was located) to measure the results of a particular shot. That the installation of the photo multiplier tube and the pressure change and the tube withdrawal after the shot took place was solely under the control of and performed by members of the LLE staff and no LANL employee had any involvement in that procedure. That, as a matter of fact, the Light Pipe diagnostic did not provide usable data during shot 9 and the Plaintiff's injury did not occur during this "shot" and was not connected in any way with the use of LANL's photo multiplier tube, along with the shot itself or any activity related to the shot.

8. That it is my understanding, from information provided by LLE personnel after the accident, that after the 9th shot and while no shot activity was taking place, Dr. Vladimir Glebov requested that the Plaintiff perform an adjustment to the pressure system connected to the Light Pipe, specifically to reduce the existing pressure from 100 pounds per square inch to 50 pounds per square inch. That neither I nor any LANL employee knew that such a direction had

been issued or that Mr. Roberts would be performing any service or maintenance on the Light Pipe. That it is unknown to me what Mr. Roberts did with regard to the Light Pipe pressure system. However, when I recently participated in a discovery and inspection of the Light Pipe and its related equipment, all of which is in the possession of the University of Rochester, I learned that at that time the pressure control valve was fully open and as, hereinafter set forth, our investigation of the remaining portions of the Light Pipe indicated that at the time of the accident a rapid decompression had taken place due to over-pressurization which caused a rocket effect torqueing the support structure of the Light Pipe and caused the structure to fall when the force caused the bolts to shear off.

9. That as for qualifying the Light Pipe as meeting the safety requirements of the LLE, that responsibility was that of the LLE Diagnostic Review Board and Dr. Vladimir Glebov's as the Principal Investigator for the Light Pipe. As previously set forth in my earlier Affidavit neither I nor any employee of LANL ever had any connection with the design, assembly, maintenance, repair, installation or adjustments to the Light Pipe and, in fact, I was not permitted to touch it or inspect it under the rules of the LLE.

10. That Mr. Micca's Affidavit, which is not accompanied by any affidavit or statement by any person with any knowledge about the LLE laboratory or about the safety qualification practices or rules and customs of the LLE, asserts that I had a current, at the time of the August 6 date, responsibility to qualify the safety of the Light Pipe and to comply, with regard to safety, with various rules and regulations of the LLE concerning the qualification of the Light Pipe. That statement is not correct. I had no connection with or responsibility for the Light Pipe, in fact, no one with personal knowledge of the LLE has supported any of Micca's suppositions. As set forth in the Affidavits of Samuel F.B. Morse and Dr. Vladimir Glebov, the University of Rochester agrees that assertion is not correct. As both Dr. Glebov and Mr. Morse

have said in their Affidavits, the Light Pipe was solely a University of Rochester product which they controlled, designed, manufactured, and assembled and was, in effect, off limits to me or any other LANL employee. Once the LLE qualified a diagnostic and cleared it for use, the LLE put it as an available option on the LLE's electronic shot request form ("SRF"), and external users could list any qualified diagnostic on the LLE's drop-down menu but could not list one not on the approved form.

11. That Mr. Micca's Affidavit and Statement of Undisputed Material Facts contain numerous errors and inaccuracies with regard to my role as Principal Investigator, the roles of Principal Investigators in general, the responsibility of the LLE and its employees, the manner in which the LLE operates and the conduct of the DT Ratio and other experiments at the LLE.

12. That, in general, Mr. Micca's assumption ignores the following:

- a. No Experimental Principal Investigator from an external user's institution is the Principal Investigator for any other institution's diagnostics and I am not and never was the Principal Investigator for the LLE Light Pipe.
- b. The responsibility for qualifying any diagnostic as complying with appropriate safety standards, or for any other purpose, in order to be used at the LLE is the responsibility of that diagnostic's Principal Investigator (in this case Dr. Vladimir Glebov) and is under the exclusive control of that Principal Investigator.
- c. That no diagnostic can appear on a SRF before it has been qualified by its Principal Investigator as safety compliant and, once it appears on the SRF, after receiving the approval of its' Principal Investigator, that approval and its appearance and use in connection on the SRF is subject to the final review and subsequent approval of the LLE Diagnostic Design Review Board.

- d. That the responsibility for identifying a particular diagnostic as non-qualified from a safety perspective is the responsibility and under the exclusive control of the Principal Investigator for that diagnostic, an LLE employee, in cooperation with the Diagnostic Design Review Board consisting of LLE Engineering and Operation Departments.
- e. From the perspective of a user such as LANL, if a diagnostic appears on a Shot Request Form, it had to be a qualified diagnostic since the LLE had to provide final approval for it to be on the Shot Request Form.
- f. It is my understanding that the qualification of its diagnostic as safety compliant would be done at the LLE by a combination of the Mechanical Engineering Department, the Electrical Engineering Department, the Chemical Engineering Department, its Principal Investigator, and the Operation Department and the normal procedure would be for it to go through a design review process by those segments of the LLE.
- g. That LANL brought its own diagnostic to measure the results of the various "shots" to be run on August 6, 2008, which diagnostic went through the rigors of the LLE design review process to become qualified and, as to that diagnostic, only I was the Principal Investigator and responsible to certify it was safety compliant.

13. That the specific errors in Mr. Micca's Affidavit and Statement of Undisputed Material Facts include the following:

- a. It was not my role as Principal Investigator to qualify the Light Pipe. Dr. Vladimir Glebov, as Principal Investigator for the Light Pipe, had qualified the Light Pipe, approved its inclusion on the Shot Request Form and, without

the LLE's prior qualification of it, the Light Pipe could not have been placed on the Shot Form.

- b. The term Principal Investigator is used generally by Micca but it has specific applications to various Principal Investigators and their functions in different contexts. In terms of approving and qualifying diagnostics it is intended to and is rigorously applied to each separate Principal Investigator who is responsible for his or her separate internal and proprietary diagnostics. That, while I was the Principal Investigator for the Shot Program and for the internal proprietary diagnostic designed by LANL, Vladimir Glebov was the Principal Investigator for the proprietary diagnostic known as the Light Pipe. No member or employee of LANL was allowed by the LLE to literally have anything to do with the design, assembly, maintenance, repair, or qualification for safety purposes of the LLE's proprietary diagnostic. No member of LANL would be permitted to even touch it nor could anyone approach it in the Target Bay without an escort (sometimes referred to as a guard).
- c. Plaintiff's statement in item 8 of his Statement of Undisputed Material Facts contains a material inaccuracy. The review of the 7700 instructions to which he refers does not say that the Light Pipe is to be qualified two weeks before the date of "the experiment", it is to be qualified two weeks before the date of its first experiment. From the Affidavits of Dr. Glebov and Mr. Morse I understand it had been in use for a substantial period of time and was qualified prior to its first use as required by the 7700 instructions.

14. That the incident in which Plaintiff was injured, which occurred in the Target Bay at the LLE, is not accurately described in Plaintiff's Statement of Undisputed Material Facts. While it is true that the Light Pipe support structure fell and that its mounting bolts were sheared off, our investigation and a review of the condition of the Light Pipe parts and related equipment at the University of Rochester during our discovery and inspection on September 13, 2012 indicates that what occurred is that there was a very significant over-pressurization of the Light Pipe, after it had been adjusted on August 6, 2008, causing the cap at the end of the Light Pipe to blow off which resulted in a rapid decompression and created a rocket effect back down the Light Pipe which was transmitted through the overall support structure to which it was connected and that rocket force torqued the support structure so that it bent the bolts holding the structure to the ceiling and sheared them off, resulting in the support structure collapsing. The support structure did not collapse on its own. Scott Evans, who was in the Target Bay at the time of the accident, reported that he first heard an explosion and then a loud bang at the time of the accident.

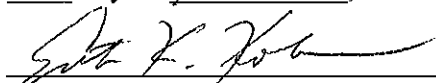
15. That, from the perspective of any external user at the LLE, including LANL and myself as Principal Investigator of the DT Ratio Experiment, the fact that Dr. Glebov had approved the Light Pipe's inclusion on the Shot Request Form and that that approval would be supported and confirmed by the LLE Operations Team tells any user, including me, that the LLE represented that the Light Pipe was a safety qualified diagnostic.

WHEREFORE your deponent respectfully requests that Plaintiff's Motion for Summary Judgment be denied and that Los Alamos' Motion for Summary Judgment be granted.



Hans W. Herrmann

Sworn to before me this
10th day of November, 2012.



Notary Public

GRETA K. KOLCON
Notary Public, State of New York
Qualified In Monroe County
Reg. #02KO5046539
Commission Expires July 17, 2015